



AMD Validation... & Development Partners

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Validation... Which Pieces?

Validate = to make valid; substantiate; confirm...

- Pre-Silicon
 - Design / Simulation / Verification
- Post-Silicon
 - Automatic Test Equipment
 - Engineering low-level diagnostics
 - **Validation – Processor and Platform**
 - Performance Analysis
 - Thermal / Acoustic / EMC
 - **Developers - ISV & IHV**
- Production;)

Validation @ AMD

■ Processor Validation

- Compatibility test process using your software and hardware products so we may build confidence that the processor will work the way it will be used in the field
- View ourselves as AMD's "first customer"

■ Platform Validation

- Compatibility test process using your actual hardware and software products that builds confidence that the chipset and platform will work the way it will be used in the field

■ Infrastructure Validation

- AMD development partnerships with chipset vendors, OEMs, ODM & motherboard vendors, & YOU

Processor Validation

- **AUTOMATED**
 - Operating System installs (~40) – including MP and International
 - HCTs and Applications
- **NETWORK SERVER**
 - Real-world stressful Server configurations & applications
 - Unix, Windows®, Novell
 - Each SUT = Server w/4-8 clients simulating 60+ virtual clients
 - Network capabilities = 64 SUTs, 500 clients, 100k's virtual clients
- **STABILITY**
 - Applications run many days with random mix of hardware
 - Under Windows, Unix, OS/2
- **4-CORNERS**
- **CPU DIAGNOSTICS**

Processor Validation

■ MANUAL APPLICATIONS

- Operating Systems, 50+
 - Manual install and methodical test
- Applications – under supported operating systems
 - Standard Applications 1,500+
 - Accounting, audio, benchmarks, CAD/CAM, comm., database, debugger, educational, graphics, mathematics, publishing...
 - Developer Tools
 - SDKs, C/C++, VB, Java, Fortran, Pascal, SoftICE, MASM...
 - Games 600+ - Woo Hooo!
 - Data Technologies – speech recognition, data over voice...
- Scripted Applications, 200+
 - Windows® applications with Windows scripting tools

■ MANUAL HCT & STRESS

- Manual execution of Windows HCTs
- Variety of Unix, Windows, Novell Server/Client stress configs.
 - Try to fully load the processor

Platform Validation – Eval.

- **ELECTRICAL**
 - CPU sustained load & Vcore transients
 - Bus Margin & Clocks
 - Power Sequence
- **BIOS**
 - Basic – CPU detect, registers, basic system functions
 - Extended – ACPI functions
- **STRESS & CORNERS**
 - Fully configured system - concurrent traffic on every interface
 - Top operating systems, 24+ hrs, each, AMD System Stress Test (SST)
 - Platform Vcc and Temperature corners - SST
- **BASIC FUNCTION**
 - Check primary sub-system functions, small set of hardware

Platform Validation – W.A.T.

- SUB-SYSTEMS
 - BROAD set of Hardware across each interface, Random configurations
 - Memory, AGP, PCI, PCI-X, EIDE, USB
- SYSTEM - GENERAL
 - 1 week AMD SST, top operating systems
 - OS & HCT Inferno, System Utilities, Cycle Suite
 - WHQL System, PC-99/DCT Test Kits
- SERVER & WORKSTATION
 - Windows®/Unix/Novell configurations and Applications
 - High-end hardware
 - Endurance tests
- MOBILE
 - AMD PowerNow!™ technology standard and stress configurations
 - Mobile hardware

The Validation Challenge

- To find bugs in AMD silicon and system solutions
 - Mainly test your mature beta, or released SW/HW
 - May identify real compatibility issues for you
 - May identify perceived compatibility issues for you
 - i.e. Software loops (LOOP\$), CPUID, etc.
 - To stay current with the latest software and hardware...
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- **YOU PLAY A PART IN BOTH!**
 - Developer partnerships can help BOTH of us

How? Easy as 1-2-3

- 1) Provide 2+ samples of new SW/HW products to AMD
 - Via your AMD Strategic Alliance Manager
 - 2) AMD Compatibility Lab performs tests
 - Across relevant microprocessors and chipset infrastructure
 - Under supported operating systems
 - Tests executed manually, improvised primary function tests
 - 3) Feedback to you via Strategic Alliance Manager
 - Collaborative issue resolution
- SW/HW may be implemented into standard validation suites

The rest is hi\$tory!!!

Customers are happy!!

- **Everything works!**

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